Much irrigation water comes from non-sustainable sources

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Some of the water used worldwide for irrigation comes from renewable sources such as local precipitation, rivers, lakes, and renewable groundwater. But some comes from nonrenewable groundwater sources.

Because water supply for irrigation is so essential to the world's [food supply](), it is important to quantify how much water comes from sustainable sources.

Wada et al. conducted a global assessment of how much water used for irrigation comes from non-sustainable groundwater sources. They used a global hydrological model to simulate the amount of water needed for optimal crop growth and the amount available from [renewable sources](). They combined this information with country-level data on groundwater use to estimate the amount of groundwater used for irrigation that comes from nonrenewable sources.

Their results show that about 20 percent, or 234 cubic kilometers per year (56 cubic miles per year), of the water used for [irrigation]() worldwide in 2000 came from nonrenewable sources. The countries with the highest levels of nonrenewable groundwater use are India, Pakistan, the United States, Iran, China, Mexico, and Saudi Arabia. Furthermore, worldwide, the use of groundwater from nonrenewable sources more than tripled from 1960 to 2000.

More information: Nonsustainable groundwater sustaining irrigation: A global assessment, Yoshihide Wada and L. P. H. van Beek, *Water*

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